We claim:

1. A method for applying a barrier to a structure to prevent the infiltration of pest species, comprising the steps of:

(a) providing a composition, which comprises:

(i) a polymer component; and

(ii) a bead comprising colloidal clay and adsorbed pest control agent, which bead is dispersed in said polymer component; and

(b) associating said composition with said structure.

2. The method of claim 1, wherein said polymer component is one or more of polyethylene, polypropylene, polybutenes, natural rubber, polyisoprene, polyesters, styrene butadiene rubber, polyacrylates, polymethacrylates, polyethylene terephthalate, epoxy resins, unsaturated polyester resins, or polyurethanes.

3. The method of claim 1, wherein said composition also contains one or more of powdered pepper, a pepper extract, an antimicrobial agent, pigments, ultraviolet radiation absorbers, molecular sieves, or silica gel.

4 The method of claim 2, wherein said polyurethane polymer component is formed from a non-aromatic diisocyanate.

5. The method of claim 4, wherein said polyurethane polymer component is formed from said non-aromatic diisocyanate and a diol chain extender of up to 12 carbon atoms.

6. The method of claim 2, wherein said polyurethane polymer component is enriched in urea linkages.

7. The method of claim 6, wherein said urea linkage are formed from the reaction of a non-aromatic polyisocyanate with the reaction product of a diisocyanate and a diamine.

8. The method of claim 7, wherein said diisocyanate is one or more of toluene diisocyanate (TDI), methylene diphenyl diisocyanate (MDI), polymeric methylene diphenyl diisocyanate (PMDI), hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI) and said diamine is one or more of 4,4'-methylene dianiline, 1,4-diaminocyclohexane, 2,4-diaminotoluene, 2,6-diaminotoluene, 1,4-diaminohexane, or an amine-terminated polyether.

9. The method of claim 7, wherein an excess of polyisocyanate is used to form said reaction product.

10. The method of claim 2, wherein polyurethane polymer component is formed from an aliphatic or alicyclic isocyanate.

11. The method of claim 10, wherein said aliphatic or alicyclic isocyanate is one or more of 1,6-hexamethylene diisocyanate (HDI), 1,4-tetramethylene diisocyanate, hydrogenated methylene diphenyl diisocyanate, 1,4-cyclohexane diisocyanate, or isophorone diisocyanate.

12. The method of claim 10, wherein polyurethane polymer component also is formed from a polyol having a molecular weight of less than about 1,000.

13. The method of claim 10, wherein said polyurethane polymer component contains hard segments made by one or more of the use of polyisocyanates having greater than 2 isocyanate groups per molecule; use of polyol having a molecular weight of less than about 1,000 and greater than 2 hydroxyl groups per molecule; an excess of isocyanate is used; or reaction of said isocyanate with an amine.

14. The method of claim 13, wherein said isocyanate is polymeric methylene diphenyl diisocyanate, and said polyol is one or more of trimethylolpropane, glycerin, Sorbitol, glycerin, polyether triols, trimethylol propane polyether triols, or hydrogenated castor oil.

15. The method of claim 2, wherein polyurethane polymer component is formed from an aliphatic or alicyclic polyol.

16. The method of claim 15, wherein said aliphatic or alicyclic polyol is one or more of hydroxy terminated polybutadiene, straight chain hydrocarbons that have 8 to 30 carbons with hydroxyl groups at each end, carbocyclic rings that contain from 5 to 32 members with hydroxyl groups that are not on adjacent carbons, or carbocyclic rings that contain from 5 to 32 members that have one or more rings and that have two straight chain hydrocarbon chains that are substituents with two hydroxyl groups present, one at the end of each pendent chain.

17. The method of claim 15, wherein polyurethane polymer component is formed from an aliphatic or alicyclic polyol.

18. The method of claim 1, wherein said applying is one or more of spraying, roller coating, or brush coating.

19. The method of claim 1, wherein the wherein the pesticide is one or more of bifenthrin, pyrethrin, tefluthrin, lambdacyhalothrin, cyfluthrin, deltamethrin, isofenphos, fenvalerate, cypermethrin, or permethrin.

20. The method of claim 1, wherein said structure is composed of one or more of wood, wood-containing material, wood-derived material, metal, masonry, cementitous material, metal, ceramic, or fiberglass.

21. The method of claim 1, wherein said coating composition is applied to a pathway leading to said structure.

22. The method of claim 21, wherein said pathway includes one or more of concrete, masonry, or soil.

23. The method of claim 1, wherein said pest species is one or more of microbes, fungi, algae, bacteria, viruses, spores, insects, birds, land animals, mollusks, or rodents.

24. The method of claim 23, wherein said pest species is one or more of termites, ants, boring wasps, deer, squirrels, mice, rats, clams, oysters, or mussels.

25. The method of claim 20, wherein said wood structure is one or more of lumber, plywood, particleboard, oriented strand board (OSB), medium density fiberboard (MDF), laminated veneer lumber (LVL), laminated beams, cellulose insulation, paperboard, or kraft paper.

26. The method of claim 1, wherein said polymer component is one or more of a coating composition, a sealant, a caulk, or an adhesive.

27. The method of claim 1, wherein said associating comprises admixing said composition with soil adjacent to said structure.

28. The method of claim 27, wherein said composition is mixed with one or more of vermiculite or perlite for admixing with said soil.

29. The method of claim 1, wherein the colloidal clay has all three dimensions within the size range of 0.5 nanometers to 3000 nanometers.

30. The method of claim 1, wherein the colloidal clay particles have an aspect ratio greater than about 50, thickness less than about 10 nanometers, and other dimensions greater than about 500 nanometers.

31. The method of claim 1, wherein the colloidal clay is derived from a smectite.

32. The method of claim 31, wherein said smectite is one or more of is montmorillonite, beidellite, nonttronite, saponite, sauconite, or bentonite.

33. The composition of claim 31, wherein the colloidal clay is derived by melting a solid active ingredient and blending it with a smectite to make an expanded product.

34. The composition of claim 31, wherein the colloidal clay is derived by blending a fluid active ingredient with a smectite to make an expanded product.

35. The composition of claim 1, wherein the colloidal clay is derived from one or more of vermiculite or illite.

36. A composition for applying a barrier to a structure to prevent the infiltration of pest species, comprising:

(a) a polymer component; and

(b) a bead comprising colloidal clay and adsorbed pest control agent, which bead is dispersed in said polymer component.

37. The composition of claim 36, wherein said polymer component is one or more of polyethylene, polypropylene, polybutenes, natural rubber, EPDM, polyisoprene, polyesters, styrene butadiene rubber, polyacrylates, polymethacrylates, polyethylene terephthalate, epoxy resins, unsaturated polyester resins, polyureas, or polyurethanes.

38. The composition of claim 36, wherein said composition also contains one or more of powdered pepper, a pepper extract, an antimicrobial agent, pigments, ultraviolet radiation absorbers, molecular sieves, or silica gel.

39. The composition of claim 37, wherein said polyurethane polymer component is formed from a non-aromatic diisocyanate.

40. The composition of claim 39, wherein said polyurethane polymer component is formed from said non-aromatic diisocyanate and a diol chain extender of up to 12 carbon atoms.

41. The composition of claim 37, wherein said polyurethane polymer component is enriched in urea linkages.

42. The composition of claim 41, wherein said urea linkage are formed from the reaction of a non-aromatic polyisocyanate with the reaction product of a diisocyanate and a diamine.

43. The composition of claim 40, wherein said diisocyanate is one or more of toluene diisocyanate (TDI), methylene diisocyanate (MDI), polymeric methylene diisocyanate (PMDI), hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI) and said diamine is one or more of 4,4'-methylene dianiline, 1,4-diaminocyclohexane, 2,4-diaminotoluene, 2,6-diaminotoluene, or 1,6-diaminohexane.

44. The composition of claim 40, wherein an excess of polyisocyanate is used to form said reaction product.

45. The composition of claim 37, wherein polyurethane polymer component is formed from an aliphatic or alicyclic isocyanate.

46. The composition of claim 45, wherein said aliphatic or alicyclic isocyanate is one or more of 1,6-hexamethylene diisocyanate (HDI), 1,4-tetramethylene diisocyanate, hydrogenated methylene diphenyl diisocyanate, 1,4-cyclohexane diisocyanate, or isophorone diisocyanate.

47. The composition of claim 45, wherein polyurethane polymer component also is formed from a polyol having a molecular weight of less than about 1,000.

48. The composition of claim 45, wherein said polyurethane polymer component contains hard segments made by one or more of;
the use of polyisocyanates having greater than 2 isocyanate groups per molecule;
use of polyol having a molecular weight of less than about 1,000 and greater than 2 hydroxyl groups per molecule;
an excess of isocyanate is used;
or reaction of said isocyanate with an amine.

49. The composition of claim 48, wherein said isocyanate is polymeric methylene diisocyanate, and said polyol is one or more of trimethylolpropane, glycerin, Sorbitol, glycerin, polyether triols, trimethylol propane polyether triols, or hydrogenated castor oil.

50. The composition of claim 37, wherein polyurethane polymer component is formed from an aliphatic or alicyclic polyol.

51. The composition of claim 50, wherein said aliphatic or alicyclic polyol is one or more of hydroxy terminated polybutadiene, straight chain hydrocarbons that have 8 to 30 carbons with hydroxyl groups at each end, carbocyclic rings that contain from 5 to 32 members with hydroxyl groups that are not on adjacent carbons, or carbocyclic rings that contain from 5 to 32 members that have one or more rings and that have two straight chain hydrocarbon chains

that are substituents with two hydroxyl groups present, one at the end of each pendent chain.

52. The composition of claim 37, wherein polyurethane polymer component is formed from an aliphatic or alicyclic polyol.

53. The composition of claim 40, which is applicable to said structure by one or more of spraying, roller coating, or brush coating.

54. The composition of claim 40, wherein the wherein the pesticide is one or more of pyrethrin, tefluthrin, lambdacyhalothrin, cyfluthrin, deltamethrin, isofenphos, fenvalerate, cypermethrin, or permethrin.

55. The composition of claim 36, wherein said polymer component is one or more of a coating composition, a sealant, a caulk, or an adhesive.

56. The composition of claim 37, wherein said transport polyurethane polymer component is synthesized from isocyanates with functionality greater than 2.

57. The composition of claim 37, wherein said transport polyurethane polymer component is synthesized from low molecular weight polyols with functionality greater than 2.

58. The coating composition of claim 57, wherein said transport polyurethane polymer component is synthesized from polyols, which are one or more of trimethylolpropane, glycerin, sorbitol. glycerin polyether triols, and trimethylol propane polyether triols.

59. The coating composition of claim 46, wherein polyurethane polymer component is formed from an epoxy or silanol polyol that produces block copolymers.

60. The method of claim 36, wherein the colloidal clay has all three dimensions within the size range of about 0.5 nanometers to 3000 nanometers.

61. The coating composition of claim 36, wherein the colloidal clay particles have an aspect ratio greater than about 50, thickness less than about 10 nanometers, and other dimensions greater than about 500 nanometers.

63. The coating composition of claim 36, wherein the colloidal clay is derived from a smectite.

64. The coating composition of claim 63, wherein said smectite is one or more of is montmorillonite, beidellite, nonttronite, saponite, sauconite, or bentonite.

65. The coating composition of claim 63, wherein the colloidal clay is derived by melting a solid active ingredient and blending it with a smectite to make an expanded product.

66. The coating composition of claim 63, wherein the colloidal clay is derived by blending a fluid active ingredient with a smectite to make an expanded product.

67. The coating composition of claim 36, wherein the colloidal clay is derived from one or more of vermiculite or illite.